DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

TB Notes
No. 1, 1997

Dear Colleague:

World TB Day was observed on March 24. CDC worked with the American Lung Association (ALA), the Pan American Health Organization (PAHO), and others to organize a press conference in New York City to commemorate and publicize the event. Dr. Helene Gayle and I both made remarks at the press conference; in my comments, I shared the latest data on U.S. TB cases. I was happy to announce that for 1996, there was an overall 6.7% decrease in the number of new TB cases; 21,327 cases were reported to CDC in 1996. Although TB cases have decreased for the fourth consecutive year, this national trend obscures the fact that there are still areas of concern. For example, TB cases remained stable or increased in 20 of the reporting areas. We also continue to receive requests for assistance with sporadic outbreaks of drug-resistant strains of *Mycobacterium tuberculosis*. We must also address several important challenges, such as expanding the use of directly observed therapy, fighting TB globally through international collaborations, and developing new and improved diagnostic tests and drugs. The elimination of TB is achievable; it is imperative that we set our sights on that goal and accept nothing less!

Please mark your calendars for the next National TB Controllers Workshop, which is tentatively scheduled to be held in Atlanta during the week of January 26-30, 1998.

The Tuberculosis Information Management System (TIMS) has been prereleased. This version of TIMS, which is for testing and training purposes only, has been mailed to more than 50 sites. We expect the first release of TIMS to be available this summer. As always, please refer calls related to TIMS to Kate Hedstrom at (404) 639-8122.

The DTBE publication *Proceedings of the 1996 National Tuberculosis Controllers' Workshop* has been published and copies have been distributed to workshop participants. In addition to summarizing the remarks of all the speakers, the publication includes a list of the workshop participants and a section containing abstracts that describe creative solutions to a variety of TB control challenges. We have a limited number of extra copies and will be glad to provide them upon request. For copies, please call Ms. Dianne Meeks at (404) 639-5319, or you may write to her at CDC/NCHSTP/DTBE, Mailstop E10, 1600 Clifton Rd. NE, Atlanta, GA 30333.

DTBE staff have been busy attending meetings, in addition to hosting visitors for meetings in Atlanta. The National Coalition to Eliminate TB (NCET) met January 9-10 in Washington, DC, and was highlighted by presentations on TB elimination approaches used in different areas and settings. On January 15-16, DTBE staff participated in a managed care conference in Atlanta; there was a communicable

disease workshop with breakout sessions, with two tables devoted to TB. There was much enthusiasm and useful sharing of information on this topic. Also in January, Dr. Bess Miller traveled to Hanoi and Ho Chi Minh City, Vietnam, as part of an NCHSTP team sent to explore ways in which CDC can collaborate with the Vietnamese in their AIDS and TB prevention and control activities. In February, a delegation from the Russian Research Institute for TB and Lung Diseases visited the United States. The trip enabled our visitors, who are responsible for promulgating TB control policies in Russia, to learn about the organization of TB control services in the United States. In addition to CDC, the group visited New York City, Newark, Denver, and Houston. During the visit, plans were made for collaboration in several areas, such as laboratory services and epidemiologic studies. In June, three CDC staff will be traveling to Moscow, in turn, to learn about TB control in Russia and to develop more specific proposals for collaborative studies. On February 5-6, the Research and Evaluation Branch (REB) sponsored a meeting in Atlanta to review recommendations on anergy screening. Recent information on anergy testing and on the risk of TB in HIV-infected persons was discussed and will be used in developing updated recommendations. On February 11-14, I was in Madrid, Spain, to give a talk to preventive service physicians at a conference on immunization; I spoke about BCG and the prospects for new vaccines. The Second Annual Meeting of the International Union Against TB and Lung Disease (IUATLD), North American Region, was held February 27-March 2 in Chicago, Illinois. This high-quality program was devoted almost exclusively to TB issues and I encourage you to consider attending the 1998 conference, which will be held in Vancouver. On March 10 and 11, directors and staff of the three Model TB Centers met here in Atlanta to make presentations to DTBE and other CDC staff on the core functions of the centers and to discuss future directions and collaboration. On March 18-20, I participated in the Tijuana meeting “Ten Against TB,” which addressed issues regarding TB control in the US-Mexico border region. The NCHSTP Program Review for Dr. Satcher was held on March 25; it focused on prevention accomplishments and challenges. The 1997 EIS conference was held April 14-18 in Atlanta. The next meeting of the Advisory Council for the Elimination of TB (ACET) is scheduled for April 30-May 1, also in Atlanta. This will be a joint session with the Advisory Committee on HIV and STD Prevention and will addess mutual concerns of the two bodies. A meeting will be held in May to develop strategies for preventing and controlling TB in foreign-born persons in the United States. The ALA/American Thoracic Society (ATS) meeting is scheduled for May 16-21 in San Francisco; DTBE’s TB Program Managers Course will be held June 9-13.

In this issue of *TB Notes*, we have articles on two Internet resources for health care providers, EthnoMed and TeleMed. EthnoMed provides assistance with cultural issues and communication barriers. TeleMed allows health care providers at separate sites to share and discuss patient information, such as x-rays, through computers. I hope you will read these and the other informative articles in this issue.

Kenneth G. Castro, MD

In This Issue

NOTE: The use of trade names in this issue is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

Number 1, 1997

HIGHLIGHTS FROM STATE AND LOCAL PROGRAMS

TB Collaborative Case Conferences Enhance Training and Communication - Florida

Since November 1995, TB Collaborative Case Conferences (CCCs) have been developed and implemented across Florida through a partnership between the state Bureau of Disease Intervention, the A.G. Holley State TB Hospital, the state TB laboratory, local health departments, and the American Lung Association of Florida and its affiliates. CCCs were designed to help the members of the statewide TB control program satisfy previously unmet needs—primarily needs for TB training and education and for the development of effective community partnerships. These outstanding program needs were identified through previous assessments of the statewide TB program and through program reviews and routine technical assistance to local health departments.

CCCs further strengthen the medical and case management of TB patients throughout the state by attracting experts from varied TB control disciplines to share ideas and find potential solutions to common patient management problems. Teams of experts from the above-described partnership collaborate with area TB care providers from throughout the public, private, and voluntary sectors within an informal and nonthreatening environment, with the assistance of facilitators. Throughout the day-long conferences, TB training and teaching points are collectively identified by the collaborators through discussions of actual, current TB cases. These cases are selected by the local health departments with input and guidance from the state TB control office. Case discussions cover the entire spectrum of TB control activities, including suspicion, diagnosis, reporting, treatment, directly observed therapy, case management, contact epidemiology, and care of the TB and HIV-coinfected patient.

CCCs also serve as an important partnership-building tool. Through this informal conference method, effective partnerships between state and local health departments, laboratories, correctional facilities, hospital institutions, and community TB care providers can be forged. Conferences are held in various locations, including local hospitals, and are increasingly attended by non–health department providers of care in the area, including pulmonologists, infectious disease specialists, infection control practitioners, and discharge planners. Continued participation from these providers and others is key to the continued success of this concept. In order to attract providers from throughout the area, CMEs and CEUs are regularly offered. In addition, conference marketing materials and luncheon refreshments are provided free of charge through generous grants from

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pharmaceutical companies and the American Lung Association of Florida, Inc. Thus these conferences provide a setting that supports coalition-building efforts between local TB control programs and their community partners.

To date, 18 CCCs have been conducted within 12 of the 15 major Florida TB control regions. Participation from multiple disciplines has consistently been achieved, including representation from physicians; nurses; investigative, outreach, and support staff; laboratorians; correctional workers; and community based/nonprofit organizations. The goal is to schedule conferences at a rate of two per month, thereby reaching all the regions and enabling CCCs to be held at alternating sites within each region. Plans are underway to create additional groups of experts to comprise the visiting conference teams.

An evaluation tool was developed by the Florida TB Control Program to assess the effectiveness of the conferences and the potential impact on the attendees' programs. The following criteria were evaluated using a scale ranging from excellent to poor: case presentations, open discussion, and informal teaching. Participants were further questioned regarding the strengths of the CCC and opportunities for improvement of the CCC process. Lastly, participants were given the opportunity to describe foreseeable changes in their TB control program resulting from conference participation.

Postconference evaluations have been extremely positive. Comments indicate that the CCCs are addressing the previously identified unmet needs of TB training and education and developing effective community partnerships. Team members have concluded that the case conferences can significantly impact the management of and investigations around the cases reviewed. For example, CCC participants often collectively recommend alterations to patient case management, therapy, reporting issues, and contact investigation activities. From a state program perspective, the CCCs provide a

forum to emphasize strategies and priorities to a wide audience of public and private health care providers. The informal, nonthreatening environment facilitates open discussion among providers and allows for a free exchange of TB information and experience. As a result, the CCC concept has become a continuing critical element of the Florida TB prevention, control, and elimination effort.

—Reported by Mark Fussell
Florida Dept. of Health

Florida TB Shelter Provides Cost Effective Continuity of Care

In 1995, the Health Care Center for the Homeless (HCCH) in Orlando, Florida, opened the state's first stand-alone shelter for homeless TB patients. During November 1993, the HCCH joined with the Orange County Health Department and area hospitals to find creative ways to ensure the continuity of care of their patients, most of whom were lost to follow-up once discharged from area hospitals to the community.

The objectives of the project are simple: to provide homeless individuals who have active TB disease with a safe, secure, and inexpensive place to recover; to ensure patient continuity of care and the continued provision of DOT; and to expose and connect patients to all social and medical support services available to them.

Working with the City of Orlando, the partnership transformed a city-owned derelict apartment building into a viable temporary shelter for area homeless TB patients. The city leased the building to the HCCH for $1 per year and needed renovations were financed by area hospitals, the health department, and community retail business partners.

Referrals to the shelter are accepted from public, private, voluntary, and correctional care providers through the several local health department TB control programs in the Central Florida area. Patients are eligible if they are suffering from TB as their primary medical condition, possess no alternative housing resources, and are capable of living independently. Through the partnership, residents of the shelter receive food; cable television; directly observed therapy (DOT); and complete medical, dental, and psychosocial assessments and care. The patient residents are expected to conform to shelter rules and to remain at the shelter until they are considered to be noninfectious.

Since February 1995, when the eight-unit shelter opened its doors, 50 patients have been served, with an average length of stay of 6 weeks. More than 90% of patients ultimately complete a recommended course of anti-TB therapy. After the patient is deemed noninfectious and leaves the shelter, the Orange County Health Department provides TB case management and DOT, while HCCH provides other medical care as well as psychosocial case management to assist clients with housing, employment, and other medical services. The average cost of $13.45 per day for food and lodging compares favorably to the daily cost of a local hospital isolation room (~$1,000) or isolation at the state's TB sanitorium (~$600).

The TB Shelter is a successful demonstration of collaboration and cooperation between public, private, and voluntary organizations to solve a community health care problem.

—Reported by John Miller and Richard Stevens
Florida Dept. of Health

The Cohort Review Process in New York City

Since 1993, the New York City Bureau of TB Control has conducted quarterly cohort reviews, in which Bureau staff convene to discuss every TB case reported in a particular region during a 3-month period. In addition to the Bureau staff members—public health advisors, senior staff, and others—the cohort reviews are attended by most of the staff of the outreach office and of the TB clinic for the region being reviewed. During these meetings, which are held separately for each of the five boroughs of New York City, TB cases are reviewed for the patient's clinical status, the adequacy of the medication regimen, treatment adherence or completion, and the results of contact investigation. The cases are reviewed approximately 6 months after they are reported, so that many of the patients have completed treatment or are nearing the end of treatment. At the end of each review, the percentage of patients in that cohort who have completed treatment, including those who are likely to complete, is determined.

In New York City, every reported TB case is monitored by staff of the Bureau of TB Control. All TB patients are assigned a case manager, whether they receive TB care in the Bureau's chest clinics or from a private provider. During the cohort review, case managers present the TB cases for which they are responsible, often assisted by staff involved in contact investigation, directly observed therapy (DOT), and initial patient evaluation. The following information is reported:

- Patient's case number, age, sex, country of birth, and HIV status
- Site(s) of disease
- Smear, culture, chest x-ray, and drug susceptibility results (for clinically diagnosed or extrapulmonary cases, only culture results are presented, on an optional basis)
- Status of treatment (completed therapy, currently taking TB medications, lost, died, moved, or case reported at death) and DOT status
- Results of the source case investigation, if the patient is a child
- Number of contacts identified, appropriate for testing, tested, infected without disease, infected with disease, appropriate for preventive therapy, started preventive therapy, and completed preventive therapy (pulmonary or laryngeal cases only)

This presentation of cases allows Bureau staff to find potential problems in the way the case is being managed, such as the use of an inappropriate regimen or an inadequate number of contacts tested. It also allows Bureau clinicians, managers, and public health advisors to consult on difficult cases, especially those in which the patient is nonadherent, has multidrug-resistant TB, or has numerous contacts in a congregate setting. Finally, it allows Bureau senior staff and managers to recognize the intensive efforts of staff in managing TB cases and contacts.

Cohort reviews have proven to be a very useful tool for ensuring accountability, educating staff about Bureau protocols and goals, and improving case management and prevention. Case managers and other staff know that their day-to-day efforts will be reflected in the cohort review several months later and that they are accountable for the services they provide. Also, case managers have the opportunity to ask the Bureau's expert clinicians and managers about patient care, and these clinicians and managers can stress Bureau protocols. Most important,

patients are unlikely to "fall between the cracks" and receive inadequate care. Since 1993, when the cohort reviews began, the treatment completion rate has increased from less than 50% to 93%. The cohort review is recognized by all staff as the Bureau's most important means of program evaluation.

—Reported by Michelle McMacken
New York City Bureau of TB Control

Continuous Quality Improvement in TB Control - NYC Department of Health

The Bureau of TB Control in the New York City Department of Health (NYCDOH) reports its program activities to CDC, the New York State DOH, and the Mayor's Office. In addition to monitoring the program's progress in the conventional goals, such as completion of treatment, conversion of sputum, contact index, and patients on directly observed therapy (DOT), the Bureau has created a series of indicators which permit not only target evaluation, but trend evaluation as well.

The indicators are determined by the accountable staff. Staff members review the indicators monthly and determine whether goals are being met and whether there should be a reassessment of the indicator. Examples of indicators in several program areas are as follows: 1) Outreach services: percentage of newly reported patients who are interviewed; 2) Clinics: percentage of Class III patients on DOT; 3) Education: number of attendees at in-service and public education sessions; 4) Management information systems (MIS): number of requests for service; 5) Operations: staff and budget; 6) Surveillance: cases in suspense longer than 100 days.

NYCDOH evaluates, modifies, and monitors activities based on data from the indicators as well as other evaluation tools, such as time studies, patient flow analyses, program reviews, and surveys. Once a problem is found, the technique used to solve it is Continuous Quality Improvement (CQI). This process is based upon several important principles, namely:

- The effort is strongly supported by highest levels of management
- Multidisciplinary teams are formed to solve problems
- The process, not the staff, is analyzed (no finger pointing)
- It is driven by data and facts
- Simple data-analysis tools are used (e.g., brainstorming, using flow charts)

The process is composed of four basic steps:

Project Definition
- List and prioritize problems
- Define project and team

Diagnostic Journey
- Analyze symptoms
- Formulate theories of cause
- Test theories
- Find root causes

Remedial Journey
- Consider alternative solutions
- Design solutions and controls
- Address resistance to change
- Implement solutions and controls

Hold the Gains
- Check performance
- Monitor control system

Examples of CQI projects that the Bureau has undertaken include reducing the numbers of "lost" x-ray films and medical charts in our clinics; reducing patient waiting time; increasing time

accountability of field workers; reallocating the use of supervisory time through time studies; increasing the reporting of preventive therapy; increasing "same-day" service for Class II patients; improving the quality of customer service; conducting patient and staff satisfaction surveys; and improving inventory control.

These projects are accomplished with existing staff. However, they require a serious commitment from the staff and a strong desire to continuously improve service. There is no aspect of TB control which cannot be made better if we work at it. The CQI technique is a useful and exciting way to achieve success.

—Reported by Toni Davis, PhD, MPH
Bernadette Teahan, RN, MPH
and Jamal Baksh, MPA
New York City Dept. of Health

TeleMed: Advanced Electronic Medical Records over the Internet

The Advanced Computing Laboratory (ACL) at Los Alamos National Laboratory, Los Alamos, NM, has developed TeleMed, an advanced electronic medical record for managing TB patients, through a collaboration with the National Jewish Center for Immunology and Respiratory Medicine in Denver, Colorado. TeleMed provides a tool that is available to physicians for the first time—a snapshot of all the patient data, presented logically in a chronological record, with access to laboratory test results, clinical history, radiology images, and reports, as well as treatment interventions such as multidrug therapies. The technology was developed by the ACL as an example of how complex multimedia data systems can be shared between remote sites using the information superhighway. A particularly valuable feature allows physicians to annotate the medical record, either orally or by text, for a collaborating physician to retrieve. The exchange of medical expertise can also be done in real time, with both users sharing the same screen and with each having the capability to drive the mouse-pointer. TeleMed, now available on the Internet using Java-based technology, provides the potential for physician specialists to support primary care providers in managing complex medical problems such as TB.

The underlying technology, which is based on flexible, distributed objects, creates a "virtual patient record" that allows the integration of databases from multiple clinics and multiple providers across geographically separated areas using the Internet. This permits individual health care facilities to continue to own and manage their own data while making the data accessible to others treating the same patient. TeleMed provides a time-oriented record of the patient's medical history, but only retrieves the actual data on demand, thereby minimizing the band-width requirements of the networking capabilities. Distributed ownership of the data means that only one copy of the data exists and that copy remains where it was created. Location of the data is obtained from a Master Patient Index (MPI) that provides "pointers" to the data. Security and access to the data are controlled and protected with encryption technology.

Los Alamos, the State of New Mexico, and the US Department of Commerce have joined together to set up a TeleMed system that will connect 18 rural medical clinics with two medical centers in northern New Mexico. This project will serve as a trial to prove and expand TeleMed's specific capabilities.

—Reported by Gary Simpson, MD, MPH, PhD
New Mexico TB Control Program

EthnoMed: a Web Site for Health-Related Cross-Cultural Communication

EthnoMed is a site on the World Wide Web that contains medical and cultural information on refugee groups in the Seattle area. The project was developed and is maintained through a team effort involving medical faculty, librarians, and editorial staff of Harborview Medical Center in Seattle. It was started in the autumn of 1994 as an extension of Community House Calls, a program focused on bilingual/ bicultural case management for high-risk families in a number of Seattle's refugee communities from East Africa and Southeast Asia.

The objective of EthnoMed is to make information about culture, language, health, illness, and applicable community resources directly accessible to health care providers through their computers. It is designed to be a clinical tool that can be used by a care provider in the few minutes before seeing a patient in clinic. For instance, before seeing a Cambodian patient with asthma, a provider might access EthnoMed to learn how the concept of asthma is understood and translated and what the common cultural and interpretive issues are that complicate asthma management in the Cambodian community. Additionally, a practitioner might download patient education materials in English and Cambodian to give to the patient and try to link a patient to local resources. EthnoMed is designed to be available in neighborhood or school clinics, hospitals, offices, libraries—wherever the Internet is accessible.

The database is unique because it is intended to be a community voice in the clinic. We encourage ethnic organizations to notify us regarding activities and resources. In fact, the project welcomes comments and suggestions from members of the ethnic groups from around the world. Furthermore, as providers learn from their patients about traditional treatments, cultural perspectives or resources, they are encouraged to share the information. EthnoMed assumes that cultures are dynamic, particularly immigrant cultures, and that its documents can and should be revised and amended to reflect patterns of change. An interactive electronic medium is particularly well suited to capture and express changing cultural nuances.

EthnoMed is a new concept. Its content needs to be vastly expanded by adding both cultural profiles and clinical entities. We plan to address topics by "Health and Illness" categories, such as asthma or breastfeeding, or by symptoms, such as wheezing or abdominal pain. Currently EthnoMed has only a few entries; for example, it contains articles on asthma and brief entries on hepatitis.

Because TB is one of the most important diseases having public health implications among refugee and immigrant groups, it is logical to consider how EthnoMed could be applied to help in the successful management of TB among these groups of new Americans. Among the various levels of information relating to TB which could be adapted for EthnoMed are the following:

- General information on TB. Background papers about TB, including the world-wide epidemic and its relation to HIV infection and to TB in the United States.

- Technical documents. Treatment updates, laws, regulations, recommendations, guidelines, reviews of the current literature. The purpose of a file such as this is to conveniently draw together significant documents for health care workers whose

clinical settings may be relatively isolated from access to the medical literature. Documents or selected sections could be translated if patients request such documentation.

- Information for providers about TB and various ethnic groups; for example, within a culture, how TB is understood, terms that are used, traditional treatments, fears related to TB, cultural practices and living situations that would affect compliance with Western regimens. Also, local, regional, or national resources for getting more information.

- Patient education materials in English and translated into target languages. This would include information about TB and the medications. This material can be presented so that it can be printed out immediately or requested online from a supplying source. Culturally sensitive materials and translations are extremely expensive to produce. Significant money and time can be saved if such documents can be shared nationally and, perhaps, internationally.

In summary, we believe that EthnoMed has considerable potential for helping health care providers and immigrant or refugee patients and their families deal with TB.

If you currently have materials on TB which you would like to share, please contact Ellen Howard at the K. K. Sherwood Library, Harborview Medical Center, 325 Ninth Avenue, Box 359902, Seattle, WA 98104; tel. (206) 731-3360; Internet address ehh@u.washington.edu. Although EthnoMed is not a peer-reviewed home page, it is professionally reviewed and evaluated by physicians. Our editors will work with you as needed to adapt your document to EthnoMed.

Please submit your document on a 3.5-inch floppy disk. We prefer that you use Microsoft Word for either Macintosh or Windows. If neither of these is available, submit the file in a text format file. Please include your name, telephone number, address (and e-mail address), and the names of the files that contain the chapter(s) being submitted. Small chapters can be submitted by e-mail or sometimes longer items can be scanned. More details may be found in the EthnoMed Contributor's Guide on the EthnoMed Web site (http://www.hslib.washington.edu/clinical/ethnomed).

—Reported by Ellen Howard
K. K. Sherwood Library/Harborview Med. Center
Carey Jackson, MD, MPH, MA
Refugee Clinic/Harborview Med. Center
and Charles Nolan, MD
TB Control Program
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Wyoming Hospitals Expand TB Readiness

Wyoming, a frontier state with 481,000 people and low morbidity for active TB but also with persons belonging to most of the risk groups for TB, believes that each of its 23 counties should have some basic acute-care inpatient capability to deal with this disease.

A survey of the state's 25 acute-care hospitals in April 1996 indicated that 17 of the hospitals had constructed negative-pressure isolation rooms that meet current ventilation standards. There are a total of 33 beds in these isolation rooms. Eight hospitals, mostly small facilities in rural communities, did not have this capability and doubted their ability to afford the costs associated with constructing permanent negative-pressure AFB isolation rooms.

An October 1995 study of mobile high-efficiency-

filter air cleaners (MHEFACs) by the Emergency Care Research Institute (ECRI), published in *Health Devices* (Volume 24, No. 10), reported an evaluation of 14 air cleaners, configured as freestanding, high-efficiency particulate-air (HEPA) filtration systems. Of these, six were rated as Acceptable. The report's conclusion states that "...any MHEFACs we rate Acceptable can be used to reduce the concentration of TB droplet nuclei in typical hospital isolation rooms as recommended in CDC's recommendations and guidelines for preventing TB transmission. However, facilities need to realize that MHEFACs *reduce, not eliminate*, the risk of contracting TB."

Following a meeting between the Wyoming Department of Health (including the Preventive Medicine Branch, the TB Program, and the Office of Health Quality/Health Facilities Licensure Section) and the Wyoming Hospital Association, a memorandum of understanding was developed in which the Preventive Medicine Branch agreed to split the cost of a portable HEPA machine with each of the eight hospitals not having permanent AFB isolation facilities, if (1) each such hospital would develop an effective patient transfer agreement with a hospital capable of providing definitive care to active TB cases, and (2) each such hospital would agree to purchase the portable HEPA filter machine recommended by the Health Department's TB Program. The Wyoming Hospital Association would secure this agreement from the hospitals, and this process would be completed by September 15, 1996. All eight hospitals took advantage of this opportunity.

The six portable HEPA filter machines found acceptable by ECRI were studied by the TB Program, and based on a number of factors, Peace Medical's "Demistifier 2300" was selected. Group purchasing of these machines resulted in a $200 savings per unit, and the final cost for each of the eight units was $3,300 plus $150 shipping. Half the cost was reimbursed to each hospital by the Preventive Medicine Branch.

While aware that HEPA filtration is not a substitute for negative-pressure isolation rooms, the Wyoming Department of Health is now comfortable that at least minimal inpatient TB care capability exists within the hospitals in each of its 23 counties. We would like to express our appreciation to the Wyoming Hospital Association for helping to bring this about. Questions may be addressed to N. Alexander Bowler, MPH, CHE, Wyoming TB Program Coordinator, at (307) 777-5658.

—Reported by Alex Bowler, MPH, CHE
Wyoming TB Control Program

Tuberculosis 2000

From Anchorage, Alaska, to San Juan, Puerto Rico, thousands of medical professionals participated at over 1050 sites in *Tuberculosis 2000*, an interactive satellite course broadcast on three successive Thursdays in January and February. In health department facilities, hospital conference rooms, university auditoriums, and community centers, health providers gathered in groups ranging from 5 to 150 to see ten national TB experts presenting the latest information about clinical TB and TB control. Many of these distinguished faculty interacted directly with participants who telephoned or faxed their questions to the San Francisco broadcast studio. The topics covered were as follows: Diagnosis of TB, Treatment of TB, Screening for TB, Prevention of TB, Institutional Controls Against TB, Personal Respiratory Protection Against TB, HIV and TB, Pediatric TB, Public Health Measures Against TB, and Health Care Policy and TB Control.

The outstanding efforts of the local Site Coordinators who publicized, organized, and facilitated the course at each downlink site deserve special recognition. State Distance Learning Coordinators and the entire Public Health Training Network also played key roles in the success of this unique presentation.

Tuberculosis 2000 is available on videotape. To receive information about how to order the set of three VHS tapes, fax your name and your fax number to the *Tuberculosis 2000* office at the Francis J. Curry National TB Center: (415) 502-7561.

Tuberculosis 2000 is a joint project of the Francis J. Curry National TB Center, the Charles P. Felton National TB Center at Harlem Hospital, and the New Jersey Medical School National TB Center. Funding for this project was provided by CDC.

—Reported by Kay Wallis
Distance Learning Projects Coordinator
Francis J. Curry National TB Center

Training Needs Assessment Guide

Through a cooperative agreement with the University of Alabama at Birmingham (UAB), a guide will be developed to provide TB control program staff with a systematic approach, or "tools," to (1) determine and prioritize target audiences who need training or education, (2) conduct training needs assessments, (3) develop, implement, and evaluate training programs, and (4) increase networking capacity through the planning and training process. This guide was cited as a need by an Education and Training Work Group of the Advisory Council for the Elimination of TB, as well as by an external training and education strategy review workgroup. A Steering Committee has been established to provide guidance and direction throughout all aspects of the project. The Committee, composed of seven members representing the primary target audience (health department TB program staff) as well as those for whom the training product will be developed (e.g., direct care providers, correctional facility personnel, and managed care providers) met on Tuesday, January 7, 1997, at the Airport Sheraton in Atlanta. Members of the group reviewed focus group comments on the need for the guide, determined what materials and resources should be included in the guide, and provided comments on the draft outline. The guide is expected to be available at the end of 1997.

—Reported by Rose Pray, MPH
Division of TB Elimination

CDC *M. tuberculosis* Nucleic Acid Amplification Testing Performance Evaluation Program

CDC is conducting a voluntary performance evaluation program for laboratories that conduct nucleic acid amplification (NAA) tests for *Mycobacterium tuberculosis*. The purpose of the program is to assess the testing procedures used by these laboratories. The benefits of laboratory participation include the opportunity to conduct a free, anonymous self-assessment that promotes the improvement of the testing process through the sharing of information.

Culture identification of *M. tuberculosis*, even with the recommended rapid methods, requires a minimum of 14-21 days. The Food and Drug Administration (FDA) has approved two commercial NAA tests that can provide early confirmation of *M. tuberculosis* in a specimen. Although these tests provide rapid results,

questions remain about the appropriate guidance for using the results in making decisions about infection control, patient management, and TB control.

Clinical mycobacteriology laboratories have a key role in slowing the spread of *M. tuberculosis*. By participating in this program (developed by CDC's Public Health Practice Program Office, Division of Laboratory Systems) and using this self-assessment tool, laboratories can help maximize the NAA testing skills of their staff and the staff of other laboratories. CDC has contracted with the Wisconsin State Laboratory of Hygiene (WSLH), a university-based public health service organization, to collect enrollment information, develop and ship test samples, and forward aggregate results to CDC for analyses. Participation in the program is voluntary and anonymity of individual laboratory contributions to the program will be maintained.

The testing components of the program are not intended for use by a laboratory to satisfy the regulatory requirement for participation in a proficiency testing program. Results will be reported as aggregate data; individual laboratories can use these data to compare their performance with all other participants.

Participating laboratories will receive—

- Information on methods and results reported by other participant laboratories for NAA tests for *M. tuberculosis*,
- A mechanism for performing a self-assessment and possibly detecting problems with test systems and reagents, and
- A way to be involved in improving or maintaining the high quality of the testing process.

Program participants will periodically test performance evaluation samples in the same manner in which they evaluate patient isolates. Panels consist of *M. tuberculosis* and other mycobacteria in samples that mimic pretreated (decontaminated/concentrated) patient specimens. Laboratories will submit testing results and provide CDC with information about the methods used. Shipment dates for the performance evaluation panels will be announced.

Each participant laboratory will be provided with a preliminary report reflecting the reference testing results for each test sample one month after CDC receives all responses. A detailed aggregate report of results and methods reported by all participants (without identification of individual laboratories) for each sample will be mailed before shipment of the next panel of test samples.

Only laboratories following, at a minimum, Biosafety Level 2 practices are eligible for participation. CDC requests that participant laboratories follow guidelines described in the *CDC Biosafety Manual*, 1993 Edition, Publication No. CDC-93-8395.

If you have questions about enrollment and would like to participate, please contact

Ms. Suzanne Legois
M. tuberculosis NAA Performance Evaluation Coordinator
Wisconsin State Laboratory of Hygiene
465 Henry Mall
Madison, WI 53706
(800) 462-5261 ext. 113

For questions concerning the program, please contact:

John C. Ridderhof, DrPH
CDC

Public Health Practice Program Office
Division of Laboratory Systems, MS G25
Atlanta, GA 30333
(770) 488-4674

—Reported by John Ridderhof, DrPH
Public Health Practice Program Office

NEWS BRIEFS

The Missouri TB Control Manual is now on the Missouri Department of Health's home page and can be accessed through the Internet at the following address: http://www.health.state.mo.us./

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In October 1995, an inpatient treatment unit for patients with active TB was opened at Villa Feliciana Chronic Disease Hospital in East Feliciana Parish, Louisiana. This 15-bed facility provides care for drug-resistant or noncompliant TB patients in a newly renovated unit of a skilled-nursing facility in a rural setting. Patients are treated by a trained nursing staff with medical care provided by a physician specialized in the treatment of drug-resistant or clinically complex TB. The facility will accept out-of-state referrals for patients not under a quarantine order if there is a mechanism for the patient's home state to provide funding for the patient's care. For further information about this facility, call Meg Lawrence, MD, at the Louisiana State TB Control Program at (504) 568-5015.

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The Center for Health Policy and Health Services Research of the Columbia University School of Nursing has developed and published a report entitled "Preparing Currently Employed Public Health Nurses for Changes in the Health System." If you would like a copy of the report, contact Pam Walker by telephone at (212) 305-3417 or in writing at 630 West 168th Street, GB 252 Box 6, New York, NY 10032.

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The following TB-related poster and slide sessions will be presented at the ATS meeting in May:

Sunday
- AM Thematic poster session: Tuberculosis I
- PM Poster discussion session: Issues in TB Control

Monday
- AM Mini symposium: What's New in the Diagnosis and Treatment of TB?
  Thematic poster session: Mycobacteria Host Defense/Tuberculous and Nontuberculous Mycobacteria
- PM Mini symposium: Understanding Host Responses to TB
- Night TB Public Health Poster Session

Tuesday
- AM Symposium: TB - Year in Review
  Thematic Poster Session: Tuberculosis II
- PM Mini symposium: Young Investigators Awards

UPDATES FROM THE RESEARCH AND EVALUATION BRANCH

Notice of availability of new quinolones

The Food and Drug Administration (FDA) approved two new quinolone antibiotics, sparfloxacin and levofloxacin, for the treatment of adults with specified acute bacterial respiratory infections. Both drugs have substantial *in vitro* activity against *M. tuberculosis*, and many experts believe that they are preferable alternatives to ofloxacin or ciprofloxacin for the treatment of patients with multidrug-resistant tuberculosis (MDR TB).

Levofloxacin, the l-isomer of ofloxacin, is the active portion, with MIC's for most organisms generally one dilution lower than that for the

parent compound. The recommended maximum dose of levofloxacin is 500 mg per day as a single dose. Because the toxicity profile of levofloxacin and ofloxacin are similar, it is expected that a daily dose of 750 mg would be well-tolerated. This higher dose would be expected to be about twice as potent as the maximum dose of ofloxacin currently recommended. In the United States, levofloxacin is marketed as Levaquin™ by Ortho-McNeil Pharmaceuticals.

In experimental (mouse) studies, sparfloxacin is more active than levofloxacin at doses comparable to those used in man. However, sparfloxacin is associated with phototoxicity which is dose-related and occasionally severe. As a consequence, patients receiving the drug must avoid exposure to direct sunlight and artificial UV light. The recommended maximum dose of sparfloxacin is 200 mg/day. Some authorities have recommended that patients with MDR-TB receive 400 mg daily until evidence of bacteriologic response is documented (e.g., conversion of AFB smear status to negative), at which time the dose would be lowered to 200 mg daily. In the United States, sparfloxacin is marketed as Zagam™ by Rhône-Poulenc Rorer.

There is no clear consensus which would favor routinely the choice of one of these new quinolones over the other. In this decision the need for drug potency, with sparfloxacin being the more active of the two, must be balanced against concerns about safety. Although quinolone antibiotics are now routinely used as second-line drugs in treating patients with MDR-TB, they are not labeled for this indication. The treatment of these patients is complex and should only be undertaken by physicians expert in this area. For more information, contact Dr. Rick O'Brien, MD.

Preventive therapy research proposed

The recent infusion of federal support to bolster TB control at the state and local level has been remarkably effective at reducing transmission of the disease in the United States. This, in turn, has lead to a renewed decline of TB cases approximating that seen prior to the mid-1980s, before the disease erupted out of control. However, the great majority of new TB cases occur among the estimated 10-15 million persons with prior TB infection. This includes cases in foreign-born persons, which contribute significantly to the country's TB burden.

A time-honored method to reduce the occurrence of TB among previously infected persons is the administration of isoniazid preventive chemotherapy to those at highest risk for disease. However, there are significant limitations to this intervention: (1) The only test to diagnose TB infection, the PPD skin test, does not reliably identify the infected persons who are at highest risk for disease. (2) To be effective, isoniazid must be taken for 6-12 months, and adherence behaviors are poor for both patients and providers. (3) The drug causes biochemical hepatitis in 10% to 20% of patients, which on rare occasions is fatal. (4) Finally, isoniazid is not effective against INH-resistant TB or multidrug-resistant TB (MDRTB). In fact, there are no known effective drugs for preventing MDRTB.

Therefore, an essential component of the CDC plan to eliminate TB is the development of new diagnostic and treatment measures to prevent TB among previously infected persons. The Research and Evaluation Branch (REB) proposes to initiate research in this area with the objectives of collaborating to develop both a new diagnostic test for more rapid and accurate diagnosis of TB infection as well as a shorter and more effective

preventive therapy regimen incorporating one or more new drugs. There are several new compounds of great potential currently available, as well as new modalities to diagnose TB infection. Unfortunately, the private sector has little incentive to undertake new product development, particularly in therapeutics, because such work is costly both in time and money and holds little promise for significant financial profit. Thus, a major intent of this activity is to foster private-public sector partnerships to sustain long-term support for the studies required to develop and introduce these new prevention tools. For more information, contact Dr. Rick O'Brien at (404) 639-8123.

Studies of new TB diagnostics planned

Recently, two new rapid tests for the diagnosis of TB based on the amplification of mycobacterial nucleic acid, the MTD™ test and the Amplicor-MTB™ test, have been approved by the FDA for use on AFB smear-positive specimens. It is expected that these nucleic acid amplification (NAA) tests will also be used for "off-label" indications, such as for the presumptive diagnosis of patients suspected of TB but having negative smears. Depending on the operating characteristics of the test and pretest probability of TB in the patients being assessed, the test may or may not be useful and cost-effective. There is a need to obtain information about test performance in these circumstances in order to make recommendations on their expanded use.

In addition, there are a number of new serological tests being marketed outside the United States for use in TB diagnosis. Based on manufacturers' claims, some of these tests may have application to the screening or diagnosis of selected patient groups in this country. The most efficient way to assess them is to test them against a set of well-characterized sera collected from TB patients and controls at the time they are being screened for TB.

REB plans to issue a request for contracts (RFC) for studies to determine the operating characteristics and cost-utility of nucleic acid amplification (NAA) tests when used in the initial evaluation of patients presenting with signs and symptoms compatible with TB. The study will also contribute sera to a diagnostic specimen bank at CDC to facilitate the evaluation of other new tests which might be developed in the future.

It is expected that the studies will be conducted in up to three centers that provide diagnostic and treatment services for TB patients. Consecutively presenting patients who have diagnostic respiratory specimens submitted for AFB smear and culture because of the clinical suspicion of TB will be enrolled in the study. A portion of each specimen will be processed by NAA, blood will be taken for the serum bank, and a PPD-tuberculin skin test will be administered. Additional clinical and laboratory information will be obtained by interview and chart review. Independent of the NAA test results, all patients will be categorized by final TB diagnosis following a specified algorithm. Costing information related to TB diagnosis, treatment, and control measures (e.g., isolation, contact investigation) will be collected. The results of this study will help to determine the suitability of NAA tests for broader indications than currently approved. The study will also contribute sera from well-characterized patients and controls for use in laboratory assessment of other new diagnostic tests of interest. For more information, contact Dr. Elsa Villarino at (404) 639-8123.

Meeting on TB/HIV treatment issues to be held in September

There continues to be controversy over a number of issues surrounding the treatment of HIV-infected TB patients. Although CDC has recommended that patients with drug-susceptible disease be treated with the standard 6-month short-course regimen, many providers prescribe 9-12 months of treatment. Whether or not it is useful to give posttreatment prophylaxis or suppressive therapy following completion of a course of curative treatment is an unanswered question. The basis for associating HIV infection with acquired rifampin resistance is also unknown, although some have suggested that the poor drug absorption that occurs in HIV-infected patients may be playing a role. The use of HIV protease inhibitors has complicated TB treatment, and the value of the recent *MMWR* guidelines on this topic has not been assessed. Finally, there are several questions related to the use of preventive therapy in HIV-infected persons at risk for TB. On the other hand, we do know that there are a number of studies either recently completed or ongoing which address these issues. However, study results have not been presented or discussed in connection with the formulation of new recommendations on TB treatment or the development of a research strategy to address these questions.

In September, REB will convene a meeting bringing together investigators and experts on TB/HIV to consider recent research findings in this area. It is hoped that this information will provide the basis for a revision of our current treatment guidelines as well as for the formulation of research studies to address relevant questions which remained unanswered. For more information, contact Dr. Elsa Villarino at (404) 639-8123.

—Reported by Dr. Rick O'Brien
Division of TB Elimination

STUMP THE EXPERTS

Q. I have a question regarding preventive therapy in foreign-born persons. I am concerned about using INH preventive therapy in individuals from countries with a high level of drug resistance because of the increased risk that these persons are infected with INH-resistant organisms. What are your thoughts on managing such persons?

A. CDC recommends the use of INH preventive therapy in infected foreign-born persons unless they are known contacts of a drug-resistant case. These recommendations are based on the fact that the proportion of INH-resistant TB in foreign-born persons is relatively low and that the evidence for the efficacy of INH preventive therapy far outweighs that for alternative forms of preventive therapy.

Making decisions about preventive therapy for infected persons who are foreign-born is complicated, as your question indicates. Most countries in the world, especially those that are not industrialized, use smear microscopy to diagnose TB and do not routinely perform cultures or drug susceptibility tests, therefore drug susceptibility data from those countries are limited. If testing is done, it may only be done on cases of failure or relapse that have disproportionate rates of drug resistance. Among U.S. TB cases reported to CDC from 1993 through 1994, 80% of culture-positive cases had susceptibility test results available. Approximately 13% of foreign-born cases had TB resistant to at least INH; in contrast, 7% of U.S.-born cases had INH-resistant TB. The highest rates of INH resistance were among cases from Vietnam (19%) and Haiti (18%).

The World Health Organization (WHO) is conducting a multiyear supranational study of

rates of drug resistance in various countries. Results from this study will help guide CDC in making any future decisions about the above recommendations. In the interim, these recommendations represent the best available scientific and public health policy.

Reference: Moore M, McCray E, Onorato I. Drug resistance among reported U.S. cases of tuberculosis (TB), 1993-94 (Abstract). Presented at the American Thoracic Society International Conference, May 10-15, 1996. New Orleans, LA. Am J Respir Crit Care Med 1996;153:A334.

TRAINING AND EDUCATIONAL MATERIALS

Youth-Oriented Videotape on TB Signs and Symptoms

Between 1991 and 1995, the Orange County Health Care Agency reported 1,859 new TB cases and over 50 TB deaths. Especially impacted by TB have been pre-teens through young adults, with nearly 100 Orange County youth (ages 10-19) contracting the disease in the 5 years since the beginning of 1991. To introduce the warning signs and symptoms of TB to youth, the Orange County Health Care Agency, with the support of the California State Department of Health and Hoag Hospital, has produced an informative video for the teenage audience. The lively, upbeat video, entitled *TB—A Reality Check*, gives a youthful perspective on TB: what it is, how it is spread, and how it is cured, with a special emphasis on the importance of obtaining a check-up. The 18-minute video is fast-paced, with a message presented by teens through up-to-date "teen style" music and language. TB fact sheets are also available, as well as suggested lesson plans containing TB educational materials for use in English, geography, journalism, drama, health science, history, social studies, computer sciences, and math classes. Video distribution includes 74 junior high/middle/intermediate schools, 58 high schools, 14 continuation schools, and 7 alternative school sites. Plans are to have the video available for check-out at 51 Orange County library branches; at the Orange County Health Care Agency ADEPT video library, (714) 834-4058; or through the Orange County Health Care Agency TB Control Office, (714) 834-8309. For more information about the video and lesson plans, or to order, call Penny Weismuller at (714) 834-8025.

NEW CDC PUBLICATIONS

Binkin NJ, Zuber PLF, Wells CF, Tipple MA, Castro KG. Overseas screening for tuberculosis in immigrants and refugees to the United States: current status. *Clin Infect Dis* 1996;23:1226-32.

Braden CR. Current concepts in Mycobacterium tuberculosis DNA fingerprinting. *Infectious Diseases in Clinical Practice* 1997;6:89-95.

Cantwell MF, Binkin NJ. Tuberculosis in sub-Saharan Africa: a regional assessment of the impact of the human immunodeficiency virus and National Tuberculosis Control Program quality. *Tuber Lung Dis* 1996;77:220-25.

Braden CR, Templeton GL, Stead WW, Bates JH, Cave MD, Valway SE. Retrospective detection of laboratory cross-contamination of *Mycobacterium tuberculosis* cultures with use of DNA fingerprint analysis. *Clin Infect Dis* 1997;24:35-40.

CDC. *Summary of the 1996 TB Program Managers Workshop*. CDC: Atlanta, 1997.

Carey JW, Oxtoby MJ, Nguyen LP, Huynh V, Morgan M, Jeffery M. TB beliefs among recent Vietnamese refugees in New York State. *Public*

Health Rep 1997;112:66-72.

Miller B and Castro K. Sharpen available tools for TB control, but new tools needed for elimination. Editorial. *JAMA* 1996;276:1916-17.

Miller MA, Valway SE, Onorato IM. Tuberculosis risk after exposure on airplanes. *Tuber Lung Dis* 1996;77:414-19.

Zuber PLF, Knowles LS, Binkin NJ, Tipple MA, Davidson PT. Tuberculosis among foreign-born persons in Los Angeles County, 1992-1994. *Tuber Lung Dis* 1996;77:524-530.

PERSONNEL NOTES

Bernard (Bernie) Benecke has been selected for the vacant public health advisor position in the TB program of the Michigan Department of Community Health. Bernie has been on a TB assignment with the Maine Department of Human Services since August 1993. He transferred from Augusta to Lansing on March 16, 1997.

Jacqueline Elliott has been selected for a TB public health advisor position in the Los Angeles County Department of Health Services. Since 1993, Jackie has been assigned to the New York City Department of Health as a public health associate working in the major units of the TB control program. Since being promoted to public health advisor in 1995, she has been assigned to the Harlem Model TB Center. In Los Angeles, she will function as a district manager in the county TB program. Jackie transferred from New York to Los Angeles on April 27,1997.

Lisa Benton Favors has been selected for a new position, Program Specialist, in the Office of the Director, DTBE. Lisa will be assisting Paul Poppe in the areas of programmatic planning and development, preparing responses for inquiries which require information from multiple Branches, coordinating requests under the Freedom of Information Act, and maintaining the duty officer schedule as well as other yet-to-be identified tasks since this is a new and evolving position. In the mean time, Lisa will continue as Dr. Castro's secretary until that position can be announced and a selection made. Lisa also married on March 15, hence her new name.

Alstead Forbes has been selected for a GS-11/12 public health advisor position assigned to the New Jersey Department of Health and Senior Services, Division of Communicable Diseases, Tuberculosis Control Program. Alstead will be working closely with the senior public health advisor and State public health officials. Alstead came to work for CDC in February 1993 as a public health associate in the Division of Tuberculosis Elimination, assigned to the New York City Department of Health. After completing the initial training for TB public health associates, he was promoted to public health advisor GS-9 on April 1995. Alstead has gained extensive experience from his intracity assignments working with the major units of the NYC TB program. Alstead transferred from New York City to Trenton, New Jersey, on April 27, 1997.

Gail Burns Grant has been selected for a program consultant position in the Field Services Branch. Gail came to work for DTBE in August 1991 in a field assignment with the team investigating multidrug-resistant TB at Jackson Memorial Hospital, Miami, Florida. In addition to her duties at Jackson Memorial, she served as the acting TB program manager at the Dade County Health Department for 6 months in 1992. She was selected by DTBE for a first-line supervisory position with the new public health associate training program and transferred to

New York City in January 1993. In April 1994, she was selected for the public health advisor position with responsibility for managing New York City's TB program in Brooklyn. In March 1996, Gail joined the Family and Intimate Partner Violence Team in the National Center for Injury Prevention and Control. Her date of transfer to DTBE was February 2.

Kathryn Koski has been selected for the vacant (GS-12) public health advisor position in the Los Angeles County TB Control Program. Ms. Koski came to work for CDC in July 1991 as a public health associate in the DSTD assigned to the Los Angeles Training Center. She was transferred to Miami, Florida, in April 1993 and worked there as a lead disease intervention specialist with the DSTD. While in Miami, she completed a temporary duty assignment with the TB Control Unit, Dade County Public Health Department (DCPHD). She coordinated the installation of the DCPHU computerized medical record system at Jackson Memorial Hospital TB Unit, and developed a TB field record and TB pouch review/audit system. She also accompanied staff on TB contact investigations and directly observed therapy field visits. In March 1995, Ms. Koski transferred back to Los Angeles as a supervisory public health advisor with the DSTD. She networks with local CBOs to provide effective STD services within the community and works with other health department programs, such as TB Control, to develop comprehensive outreach activities. She has participated in several special projects with DSTD in the Los Angeles area. Kathryn will be working with Graydon Sheperd and Sue Gerber. Kathryn reported for her new assignment in TBC on March 2.

Carla Lee, DTBE public health advisor assigned to the Chicago Department of Health, has accepted a position with CDC's National Immunization Program. Carla joined DTBE and was assigned to the Chicago tuberculosis program in June 1992. She has made important contributions to tuberculosis prevention and control in Chicago and in Maryland during her temporary duty assignment in 1993. She began her new job, which we understand will have an international focus, in Atlanta on April 27, 1997.

Suzanne Marks, MA, MPH, joined DTBE on January 27 as an epidemiologist in the Prevention Effectiveness Section of the Research and Evaluation Branch. Suzanne worked 21/2 years as a Research Associate for the Family Planning Council of Southeastern Pennsylvania and 5 years as an economist for the US Department of Agriculture's Economic Research Service. While at the Council, she helped manage the research component of a CDC-funded project to reduce HIV/STDs in Northern Philadelphia. At USDA, she compiled cost estimates of food-borne diseases, including the *E. coli O157:H7* outbreak in 1993, and analyzed global food demand. In addition, Suzanne served as a Peace Corps volunteer in Togo, West Africa. Suzanne received her MA in economics at the University of Illinois and her MPH at Johns Hopkins, where she has also completed her coursework toward the DrPH in International Health.

Nancy Pearcey, our program assistant in the Field Services Branch, has accepted a position in the Program Support Office (PSO) of NCHSTP. Nancy came to work for us from the private sector in March 1990 and has been a very dedicated, loyal, and productive member of our staff. She has established a reputation for herself among headquarters and field staff of being a "can do" person. She has provided support and assistance to the program consultants, other members of DTBE, the field staff, and TB

controllers/managers in countless visible and invisible ways. She has a high level of initiative, creativity, and desire, and she applied these to her work to make life at work better for all of us. For these reasons and more, we hate to see her go and will miss her. On the other hand, we are happy that she has this opportunity to gain additional experience and move along in her career with CDC. She will definitely be an asset to the staff in PSO. She will also continue to be an asset to us in that she understands the TB program, and with that understanding and her acquaintance with us, she will be a TB ally and advocate at her new level of responsibility. The telephone number in her new office is (404) 639-8025. She transferred to NCHSTP February 16.

Joe Scavotto has been selected as section chief for Field Operations Section I in the Field Services Branch. Joe joined CDC in 1974 and has been with TB since 1987 with assignments in Fulton County, Baltimore, and Alabama. He has been a program consultant since 1993 for Regions I and IV. Joe began his new duties on January 5.

Barbara Styrt, MD, has left DTBE. Barbara came here from the Food and Drug Administration (FDA) in February 1996 and worked as a Medical Epidemiologist in the Research and Evaluation Branch since that time. She will be returning to the FDA as a Medical Officer in the Division of Antiviral Drug Products. Among other projects, Barbara provided expertise on nucleic acid amplification tests for TB, and was responsible for planning and organizing the February 5-6 meeting in Atlanta to review anergy screening recommendations. We will miss her quiet wit and pleasant personality. Her last day in DTBE was April 21, 1997. Good luck, Barbara!

Dawn Tuckey, DTBE's public health advisor in Wisconsin, has accepted a position with the Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion. She will be assigned to Washington, D.C. effective February 16. Dawn has been on assignment to the Wisconsin TB program since April 1993. She worked diligently and accomplished much for the State and CDC. We will miss her and wish her all the best in her new job.

CALENDAR OF EVENTS

April 30 - May 1, 1997
Advisory Council for the Elimination of TB
Atlanta, Georgia
CDC
(404) 639-8008

May 5, 1997
Confinement of Persons with TB in New Jersey Course
Newark, New Jersey
Debra Bottinick
NJ Medical School National TB Center
(201) 982-3270

May 16-21, 1997
ALA/ATS 1997 International Conference
San Francisco, California
William J. Martin II, MD
(212) 315-8780

May 22, 1997
Effective TB Interviews, Part II: Targeting Special Populations--
A Special Showcase for TB Educators
San Francisco, California
Training Coordinator
Francis J. Curry National TB Center
(415) 502-4600

June 2-6, Sept. 8-12, Dec. 1-5, 1997
Comprehensive Clinical TB Course
Lantana, Florida
Maria Gomez (ext. 211) or Carolyn Weir
(ext. 281)
A. G. Holley State TB Hospital
(561) 582-5666

June 2-6, 1997
Advanced Medical Mycobacteriology Course
Atlanta, Georgia
For experienced state (or equivalent) public health mycobacteriology lab personnel (Level III).
Deadline for applications: April 7, 1997.
Registrar: Diane Hamm
(404) 639-4859
For course content: Ron Smithwick
(404) 639-3904
CDC

June 10-11 and June 17-18, 1997
Preventing TB in Acute Care Hospitals Course
San Francisco, California
Requires a special or supplemental application.
To request form, contact:
Training Coordinator
Francis J. Curry National TB Center
(415) 502-4600

June 23, 1997
TB and the Law Course
Newark, New Jersey
Debra Bottinick
NJ Medical School National TB Center
(201) 982-3270

July 21-23, 1997
The 32nd Research Conference on TB and Leprosy
Cleveland, Ohio
Sponsored by NIH and hosted by Case Western Reserve University. Will focus on molecular genetics, immunobiology, and pathogenesis of *M. tuberculosis* and *M. leprae*; development of improved animal and cell culture models; and application of basic technology.
Conference Coordinator
Tel (216) 368-1949
Fax (216) 368-0105

August 12-15, 1997
TB Program Manager's Course
San Francisco, California
Requires a special or supplemental application.
To request form, contact:
Training Coordinator
Francis J. Curry National TB Center
(415) 502-4600

September 13, 1997
TB Update Course
San Francisco, California
Training Coordinator
Francis J. Curry National TB Center
(415) 502-4600

September 25, 1997
TB Update II Course - Directly Observed Therapy (DOT): An Overview
Newark, New Jersey
Debra Bottinick
NJ Medical School National TB Center
(201) 982-3270